

Improving the Visual Quality of Military Installation.

2-1.

Background.

A brief historical review of site development on military installations provides useful insights into the genesis of most installation plans and the problems that have developed over the years as missions have changed and the functional requirements of site planning have become more complex.

A. Historical Development Phases.

The historical development of installation plan forms can be generally grouped into three phases. The first of these phases was the quadrangle plan, influenced by defensive requirements (*fig. 2-1*). The second observable phase was characterized by the rigid and formal geometry of the Beaux Arts School which influenced military site planning in the late Nineteenth and early Twentieth Century (*fig. 2-2*).

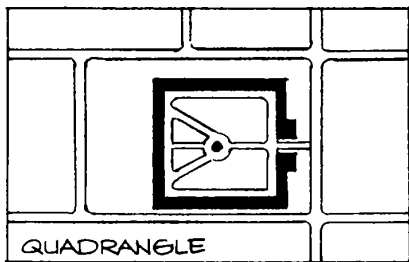


fig. 2-1.

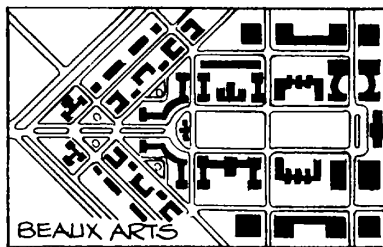


fig. 2-2.

The third period, which continues to strongly influence site planning today, was the World War II build-up which was characterized by the imposition of a gridiron circulation system and repetitive, checker-board, temporary construction (*fig. 2-3*). A dispersed plan concept was commonly employed during this period, locating facilities apart from each other in an attempt to minimize their vulnerability under a possible bombing attack.

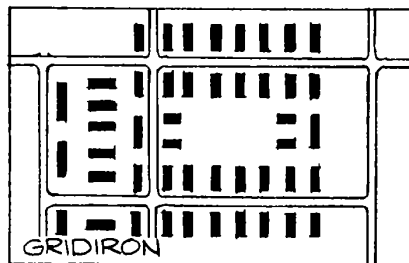


fig. 2-3.

B. Emerging Planning Issues.

The present organization, operations and development patterns of installations continue to be influenced by the gridiron system and the dispersed plan concept. The consequences of this era include facilities that exist as individual entities which have little relationship to their neighbors, either in terms of their architectural character or their functional and efficient operation. Today, energy conservation, operational efficiency and livability have emerged as primary installation planning considerations, replacing those of the now strategically obsolete dispersed plan concept.

C. Other Considerations.

Factors not related to the quality of site planning itself have contributed to the current difficulties of improving the visual image and functioning of military installations. These include limited funding resources for maintenance and improvements as well as the increased complexity and rapid changes in military missions and their program requirements.

2-2.

General Guidelines.

The visual quality of a military installation cannot be fundamentally changed by a limited cosmetic approach to aesthetic considerations. Instead, a comprehensive approach based upon the following essential guidelines is necessary.

A. Enhance Existing Assets.

The overall physical image of military installations today can be significantly improved by enhancing those existing environmental assets present at each installation. These assets may include large reserves of natural open space, impressive landscape features, and historic and contemporary buildings of distinctive character.

B. Employ Practical, High Quality Design.

Many installations can be vastly improved at modest costs by a few simple improvement programs, such as a tree planting program and a coordinated signing system program. Concomitantly, when major investments in new facilities are contemplated, their design should contribute positively to the overall image and attractiveness of

the installation. This can be accomplished within reasonable budgetary restrictions by sensitive, practical, high quality design which does not necessarily cost more, either in terms of design fee or construction costs, than an inefficient or poorly executed design solution.

C. Utilize Sound Site Planning and Design Principles.

1. Site Analysis as the Foundation of Site Planning and Design. Careful consideration of natural and man-made site conditions is the foundation of both master planning and site planning design. Essential site features which should be considered include topography, vegetation, drainage, views, climate, availability of infrastructure (circulation and utility systems), and functional and aesthetic relationships to other site facilities.

2. Development of an Overall Conceptual Framework. Sound site planning cannot be achieved on a site-by-site, problem-by-problem basis, but must be based on a master plan which is properly conceived to allow each problem to be resolved as a part of a total concept. This conceptual framework starts with land use planning based on not only functional or mission requirements, but also on careful consideration of the ecological, physical and visual character of the installation, on future growth flexibility, on development of a circulation system which serves but does not dominate the setting, and on the perception and continuity of physical form of the built environment.

3. Integration and Coordination of Site Components. The design and detailing of site

components, including paving, plant materials, street furniture, lighting and signing, should be developed as a consistent system related functionally and aesthetically to such organizing elements as the circulation system, land use and activity centers. The coordination and orderly development of these component systems add greatly to establishing an improved image and more functional environment.

4. Energy Conservation.

Energy conservation objectives and site planning and design activities interface both at the master planning policy level as well as in the design and siting of individual facilities. Land use and transportation master planning should strive to minimize necessary auto trips by locating related activities together and developing a balanced transportation system which encourages pedestrian, bike and public transit as attractive alternatives to the auto. Building orientation, massing and detailing, as well as the interrelationship to adjacent buildings and planting, all have implications on site design to reduce energy consumption. The necessities of energy conservation require new criteria affecting building design decisions, and changes in previous concepts of building form and site relationships.

2-3. Relationship to the Master Planning Process.

While master planning procedures of the Army, Navy, and Air Force are different, they generally focus on existing physical conditions, future installation conditions, future installation requirements, and proposed land use and circulation.

If the visual quality of military installations is to be improved, design procedures as well as guidelines must be incorporated into the installation master planning process. It is at the master planning level that there is an appropriate overview directed at ensuring overall coordination and compatibility among individual program needs. Formulation of an installation design guide as part of the master planning process is the proposed mechanism to guide improvement of the visual quality of a military installation. The installation design guide would provide visual design guidelines and criteria consistent with master planning objectives.

2-4. Procedure for Developing a Design Guide.

A. The development of the installation design guide would be based on the general guidelines of the **Installation Design Manual**. However, the design guide would be responsive to such locationally specific conditions as climate, prevailing architectural character, indigenous plant materials, and any other atypical installation conditions or policies.

B. An interdisciplinary design team composed of architects, engineers, landscape architects and graphic designers should develop and implement the design guide in a four-step process. This four-step process, described in detail in the following paragraphs, is a general methodology for considering visual design impacts during master planning, site planning, architectural design, renovation and maintenance of installation facilities.

Step 1: Assess the Existing Visual Environment
Step 2: Formulate the Design Guide
Step 3: Implement the Design Guide
Step 4: Evaluate and Update 8-8.

2-5.

Step 1: Assess the Existing Visual Environment.

A. Overview Visual Survey.

An overview survey should be conducted initially to assess the existing visual environment of the installation. The purpose of this survey is to evaluate the visual quality of the installation and to identify dominant visual impressions, both positive and negative.

1. Those conducting the survey should imagine themselves seeing the installation for the first time, approaching and entering main gates and proceeding to major destinations within the installation.

2. Consideration should be given to conducting the overview survey both at nighttime as well as daytime. The after dark survey can assist in evaluating signing and lighting.

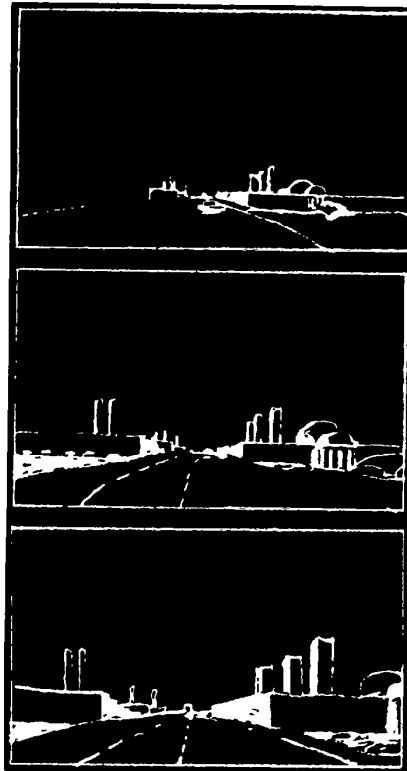


fig. 2-4.

3. Taking photographic sequences along these routes is a useful technique to document observations and to allow for a more careful study of specific elements that comprise the visual image of the installation (fig. 2-4).

4. During the survey, dominant visual impressions should be recorded on a map of the installation. A notation system can be used to record important observations such as focal points, edges, scenic views, etc. The mapping should record these elements as well as qualitative impressions such as attractive areas, streetscape clutter, etc.

B. Supplementary Visual Surveys.

Supplementary surveys directed at specific elements such as architectural character, signing, plant materials, etc., can be conducted when identified as an area of primary concern in the overview visual survey. The specific approach and level of data collection for these more detailed surveys will depend upon the particular requirements of the installation and the subject being considered. (See *Design Guidelines chapters of Part II of this manual for more detailed discussion of specific elements, especially Chapter 3: Buildings; Chapter 6: Planting; and Chapter 10: Signing.*)

C. Documentation of Findings.

The results of the visual survey should be documented in a written report with supporting graphic illustrations.

1. The report should essentially deal with the overall visual organization of the installation, its major visual assets and liabilities or problems and opportunities and any detailed visual reconnaissance of specific problem elements.

2. The graphic illustrations should clearly depict the major findings of the survey. This can be effectively done by an overlay method that locates and records major findings of the survey over a base map of the installation. Pertinent photographs and/or sketches can also be used to supplement the mapping graphics.

2-6.

Step 2: Formulate the Design Guide.

A. Goals and Objectives.

In order to develop a design guide, it is necessary to establish specific goals and objectives for improving the visual attractiveness of the installation. The specific mission, priorities, existing visual assets and liabilities, and planned changes for each installation should influence the formulation of these goals and objectives.

B. Overall Design Criteria and Guidelines.

After the design objectives of the individual installation have been established, design criteria responsive to these objectives should be formulated. These criteria should be developed for each of the major elements comprising the visual environment of the installation. Based upon these criteria, the design guide should establish overall design guidelines for the installation, including:

1. a general architectural design vernacular, indicating desired architectural character, massing, scale, materials and color palette;
2. plant materials, prototypical applications and details that are appropriate to the installation and its climate;
3. site planning and design guidelines for site systems including circulation (vehicular, pedestrian, bikeway), parking, signing, lighting and utilities;
4. a coordinated design system for site furnishings, signing and lighting.

C. Detailed Design Criteria and Guidelines.

Beyond the overall design guidelines, the scope and detail of the design guide can vary depending upon the specific needs of the installation. Initially, it could address in detail any or all of the subjects most appropriate to the installation. The design guide should be thought of as an evolving publication, where sections can be added or updated over time as needed.

D. Format.

The format of the design guide should make it easy to use, expand and update. Typically consisting of text, illustrations and photographs, the design guide should have its narrative keyed as directly as possible to its supporting graphic illustrations or photographs. A black and white, ring-bound format is recommended as an economical one that readily allows additions and updating.

E. Example.

As an example of what could be included in a design guide, the following objective, design criteria and design prototype were developed for a military installation in the Pacific Northwest.* *"Building Objective: Architectural materials should be expressive of Northwest building technology. Puget Sound is traditionally a lumber area. The centers of steel production and building component manufacturing are far away. There is, however, an abundance of concrete aggregate materials. Local clays for brick manufacturing are available but masonry labor rates are high."*

**Design Guide to Architecture, Landscape, Lighting, Graphics - Trident Support Site, (Bremerton, Washington) Department of Navy, pp 1-4, 1-6, 1-8 and 2-12*

"Building Design Criteria: It is recommended that all buildings in the core utilize architectural concrete as the basic wall material. All concrete, whether job poured or precast, should utilize warm-toned cement or color additive in order to overcome the cold grey tone, which until recently was typical of Northwest concrete, especially as viewed in wet weather."

"Site Furnishings Design Prototype: Bench (fig. 2-5): This is the basic element of the system and illustrates the proposed combination of concrete and wood. Concrete in the form of a standardized pre-cast concrete slab with 3/4" chamfered edges, incorporating light colored cement with the end product sandblasted. The concrete element forms the joint with the ground plane. Wood, treated with preservative but left unstained, is used for the seat and back. Use of oversized wood members is to achieve appropriate ruggedness and scale relationships. All edges shall be eased and all joints bolted and plugged where possible. The design is adaptable to leaving the back off for areas where short-term seating is anticipated. A wooden bench design with concrete supports or frame and contoured seat should be included for areas where a really comfortable bench is desirable."

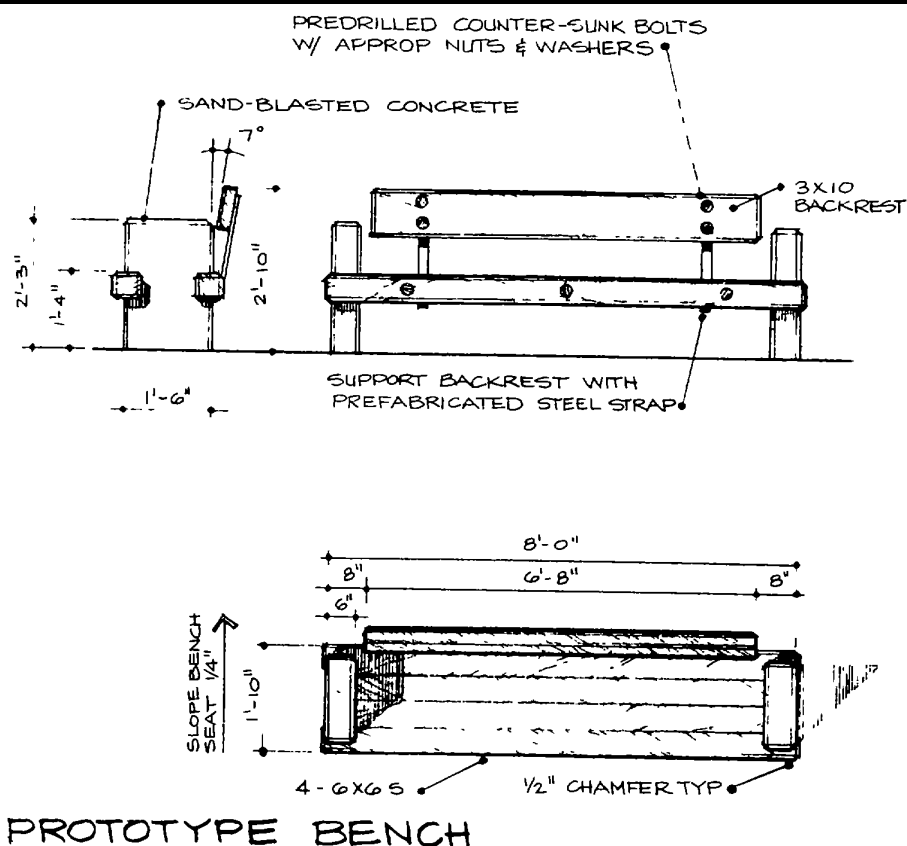


fig. 2-5.

2-7.

Step 3: Implement the Design Guide.

A. Funding.

The plan for visual design improvements must be balanced against fiscal capabilities. Special funding may be available for certain projects, such as additional maintenance and renovation funding for designated historical structures; however, almost all of these improvements will be accomplished as part of the military construction program, and operations and maintenance funds.

B. Priorities.

The rank ordering of the visual design goals and objectives will aid in establishing priorities. Potential projects should be evaluated as to their likely impact on these goals and objectives. Often this conscious exercise will result in modifications to or elimination of contemplated projects. Maintenance and improvement projects as well as construction projects should be evaluated in this manner.

C. Scheduling.

Projects should be scheduled in annual work programs and phased according to their anticipated effect on all the goals and objectives of the master plan, not simply visual design considerations. Special consideration of system-wide improvements is necessary in order that the visual and functional impact of projects is not dispersed ineffectively.

D. Detailed Design and Evaluation.

Once it has been determined to include a project in an annual work program the selected architect-engineer and the responsible government personnel who serve as the client should follow the installation design guide to the greatest practical extent in both designing and evaluating the project. Furthermore, the design guide should be used by engineering, operations and maintenance personnel, and all other decision-makers who influence the visual environment on the installation.

2-8.

Step 4: Evaluate and Update.

Periodically, the guidelines of the manual should be evaluated and updated relative to their effectiveness and possible changes in mission or priorities within the installation.